USING SETUPS 1972-2008 ANES DATA WITH SPSS FOR WINDOWS

Note 1. This handout makes frequent illustrative references to the accompanying Handouts #1A (*SETUPS: ANES 1972-2008 DATA*), #1B (*CODEBOOK*), and #1C (*DATA ANALYSIS USING SETUPS AND SPSS: VOTING BEHAVIOR IN PRESIDENTIAL ELECTIONS 1972 TO 2008*). You should read the other handouts first and have them available as you work through these instructions.

Note 2. UMBC's Office of Information Technology (OIT) makes frequent changes in its hardware, software, room assignments, hours, etc. Updated information can be found at the OIT web site. (From the UMBC home page, click on ABOUT => Technology to get the OIT homepage, and then on Computing Labs and Facilities.)

I. THE PC CLASSROOMS AND LABS

These instructions pertain to students using computers in the Windows-PC classrooms and labs in the Engineering building and elsewhere (see below) running the Windows XP Professional operating system.

In order to use the computers for any purpose, you *must* have a *computer account* and log on with your user name and password before you can do anything else. Such an account is also required for word processing, and it will also allow you to send and receive e-mail and to get access the World Wide Web. If you do not already have a student computer account, you should go to room 020 in the Engineering and Computer Science (ECS) Building to secure such an account.

Here is a list of rooms in ECS that have PCs and other resources available for student use (based on current information on the OIT web page). (*Note:* ENGR was formerly ECS.)

ENGR 019	To collect printed output only
ENGR 020	Information and consultants
ENGR 021 & 021A	Walk-In Student Lab (open 24 hours)
ENGR 104 & 104A	Classroom and Lab
ENGR 122 & 122A	Classroom and Lab
ENGR 333	Classroom and Lab
AOK 7th Floor	Walk-In Student Lab
various locations	Residence Halls and elsewhere

The classrooms may not be open for walk-in use when classes are scheduled, and they normally close earlier in the evening.

Whenever you go to a PC Lab to do POLI 300 work, you should always take the following items with you:

(a) the login name and password for your student computer account;
(b) these instructions and other relevant handouts;
(c) your SETUPS 1972-2008 Codebook;

and, optionally — if you want to save your computer output (for future use, to print on your own computer, etc.) or save data files,

(d) a CD or flash/jump/thumb drive.

II. GENERAL WINDOWS OPERATION

On the Windows screen, you will see a *pointer* (arrow) that you can move about on the screen by moving the *mouse* beside the keyboard. To *click* on an item (button, word, icon, etc.) on a Windows screen, use the mouse to put the pointer on the item and then quickly click the left mouse button. To *double click*, do the same but click quickly twice in succession. When the pointer is placed on editable text, or where text may be typed (using the keyboard), it becomes a curser that indicates where keyboard characters will be placed.

Often you will have several windows open at the same time, each represented by an icon on the *taskbar* at the bottom of the screen (along with the Start button). To move from one window (e.g., SPSS Output) to another (e.g., SPSS Data Editor), click on the appropriate icon.

You can see more of any screen by *scrolling* to the right by pointing on the ▸ button in the lower-right corner of the window and clicking repeatedly (or holding down the mouse button) and by scrolling downwards in like manner on the ▾ button. You can also scroll more or less instantaneously by putting the pointer on the *slider bar* that appears between the arrow buttons, holding the left mouse button down, dragging the bar to the desired position, and then releasing the mouse button.

Any window can be maximized (so that it fills the entire screen) by clicking on the button adjacent to the **X** (Exit) button in upper right corner of the window.

***Note*.** Windows programs typically provide the PC user with many ways (menu, tool bar, keystroke, right click, etc.) to perform any operation. The following instructions tell you one way (typically using menus) to accomplish each task you will need to do, but you may discover (and prefer) other ways.

III. HOW TO LOG ONTO A STUDENT PC

In order to use a computer in a PC lab, you must have a student computer account (the same account you need for email), and you need to know your user name and password. See Section I of this handout if you do not already have such an account.

When you sit down at a PC, it will probably already be turned on with the monitor displaying a box with the Windows logo. Hit the ENTER key to get another box that says

Welcome to Windows

Press Ctrl-Alt-Delete to begin

(This box may be on the screen at the outset.) Press the three keys simultaneously. A new box will display some Important Information; click on Yes . Yet another box will ask for your *username* and *password* for your computer account. The curser will be at the username space. Type in your user name. Move the curser to the next space and type in your password (which will not be displayed), and then click on OK.

Note. At this point, you may have to wait for a minute or two (it will seem longer) for anything to happen. This is because you are working on a very large network with many others users at the same time. However, once you get into SPSS (or another application), the PC should respond normally.

IV. HOW TO GET INTO SPSS AND OPEN THE SETUPS 1972-2008 DATA

You will now get the Windows "Desktop" screen that is blank except for some icons on the left side. If you see an SPSS icon, double click on it. Otherwise click on Start => All Programs => SPSS => SPSS/PASW 18. A blank SPSS/PASW Data Editor (spreadsheet) will open (maximize this window if necessary), with a *dialog box* in the foreground. Click on Cancel to remove this box. Click on File => Open => Data to get an Open File dialog box. Click on the drop-down drive menu (which will probably say My Documents) in the Look In box, and then double click labapps on 'fs1.ad.umbc.edu (O:) => Class Data => POLI 300 => Data7208.sav .

The SETUPS data will now open in the Data Editor spreadsheet. You will see that the columns are labeled caseid, v01, v02, v03, v04, etc., and the rows are labeled 1, 2, 3, 4, etc. What you are looking at is the extreme "northwest" corner of the SETUPS 1972-2008 data array, the four "corners" of which are reproduced in Figure 1 of the accompanying handout on *Data Analysis Using SETUPS and SPSS*. You can scroll to the right and then downwards (using the slider bar — there's a long way to go) to verify that the other corners are accurately reproduced in the figure. (You will soon be given a similar but *much* smaller printed spreadsheet of the Student Survey data.) This spreadsheet has 72 columns corresponding to the 72 variables (caseid, v01 through v70, and wt1) in the Codebook and 19,973 rows corresponding to the 19,973 (unweighted) cases. (You may also find additional columns, the first labeled filter_$, at the extreme right.)

It is worthwhile looking at this small portion of data. CASEID is a unique number assigned to each respondent. The substantive variables V01, V02, etc., and their coded values can be determined by checking the SETUPS Codebook. You will see that V01 is YEAR OF SURVEY and that the actual years (1972, etc.) are entered in the spread sheet. Since the data file accumulates the nine NES surveys in chronological order, "1972" appears in the V01 column for the first 2705 cases (the size of the 1972 NES sample). V02 is REGISTERED TO VOTE?. As the Codebook notes, this data is not available for 1972 (or 1976), so code "9" ("NA" or "not applicable/available") appears in the V02 column for the first many thousands of cases. V03 is the first variable which actually varies within the small portion of the data on display. Using the Codebook, you can see that V03 is VOTED IN ELECTION and that the first respondent did not vote (code "2"), the second did vote (code "1"), the third is missing data (code "9"), and so forth.

Note. As is discussed briefly in the *Data Analysis Using SETUPS and SPSS* handout, the SETUPS 1972-2008 data needs to be weighted according to the wt1 variable. However, you need not do any anything to accomplish this weighting; settings in the data file tell SPSS to do this automatically and the message Weight On should appear in the bottom right corner of the data window.

Embellishments. The SPSS Data Editor by default appears in Data View. You can switch to Variable View (and then back again) by clicking on the appropriate toggle button near the southwest corner of the Data Editor screen, which displays information concerning (and allows one to change) characteristics of each variable in the data.

V. HOW TO PRODUCE FREQUENCY DISTRIBUTIONS

Suppose we want use SPSS to produce a frequency distribution of the variable VOTED IN ELECTION (V03), such as is displayed in Table 1 of the accompanying handout on *Data Analysis Using SETUPS and SPSS*.

Click on Analyze on the menu bar, then Descriptive Statistics, and then Frequencies. This will produce a Frequencies dialog box, in which you will see two boxes with an arrow ▸ between them pointing (initially) from left to right. The left box is the variable *source list* that (initially) includes every variable in the data file (scroll down to see more of the list) and the right box is (initially) empty. Select the variables you want frequency distributions for by moving them from the left box to the right box. To do this, highlight the variable (e.g., V03 VOTED IN ELECTION to duplicate Table 1) by clicking on it and then click on the arrow between the boxes. Additional variables can be selected in the same way. (Reverse the procedure if you change your mind and want to "unselect" a variable.) Then click on OK. The OUTPUT1 — SPSS Viewer window will display the requested frequency distribution(s). (You may have to scroll down and/or to the right to see all the output. You can get rid of the "flow chart" on the left side of the output screen by putting the cursor on the boundary between the two parts of the window (the cursor will change shape); hold down the left mouse button and drag the boundary to the left. And you may wish to maximize the output window. If you requested frequencies for V03, the table in the output viewer should display results identical to those in Table 1 of *Data Analysis Using SETUPS and SPSS*, and the labeling and formatting should be generally similar but not identical. (I edited the labeling and formatting of Table 1 a bit.) You can return to the SPSS Data Editor screen by clicking on any visible portion it or clicking on the SPSS Data Editor icon on the taskbar at the bottom the screen.

If you subsequently recall the Frequencies dialog box (e.g., because you want to run frequencies for more variables), your last request will remain entered. You can clear this box by clicking on the Reset button. (The same applies other dialog boxes.)

Note. The source list of variables in a Frequencies (or other) dialog box should show the variable label (e.g., VOTED IN ELECTION?) as well as the variable name/number (V03). Only the first 15 letters or so of the label will be immediately visible; if necessary, place the arrow on the variable for a second to see the complete label. If for some reason the variable labels are not being displayed, click on Edit, then Options, then on General, and finally on Display labels under

Variable lists. In the SETUPS 1972-2004 data file, variable labels include the name as well, i.e., the label for V03 is actually "V03 VOTED IN ELECTION," as you can confirm by looking at the file in Variable View.

Embellishments. Before clicking on OK, you can click on Statistics in the Frequencies dialog box to request various statistics pertaining to the selected variable(s), e.g., measures of central tendency and/or dispersion, and then click on Continue to return to the Frequencies dialog box. Likewise you can click on Charts to request bar graphs or histograms.

VI. HOW TO PRODUCE CROSSTABULATIONS

Suppose you want use SPSS to produce a crosstabulation of VOTED IN ELECTION (V03) by YEAR OF SURVEY (V01), such as is displayed in (the substantially reformatted) Table 3 in *Data Analysis Using SETUPS and SPSS* or a crosstabulation of PRESIDENTIAL VOTE (V04) and ABORTION OPINION (V45) in Table 5 of the same handout (which, however, is based on 1992 data only — see section VII below).

Click on Analyze, then Descriptive Statistics, and then Crosstabs . This will produce a Crosstabs dialog box. In the same manner as before, select a "row variable" (e.g., V03) and "column variable" (e.g., V01) from the source list. (If you select more than one variable in each category, SPSS will produce multiple tables crosstabulating every possible pair of row and column variables.) If you want percentages calculated and displayed, click on Cells and select any combination of row, column, and total percentages. (Table 3 in the accompanying handout displays column percentages only. Tables 5B, 5C, and 5D display row, column, and total percentages respectively (along with absolute frequencies), while the summary Table 5 displays all types of frequencies in each cell. Then click on Continue to return to the Crosstabs dialog box and click on OK . The OUTPUT1 — SPSS Viewer window will display the requested table(s).

Embellishments. Before clicking on OK , you can also click on Statistics in the dialog box to request various statistical *measures of association* pertaining to the selected crosstabulations.

VII. HOW TO SELECT A SUBSET OF CASES

Especially given pooled cross-sectional data like this SETUPS data, you will often want to construct tables that include only a subset of cases — in particular, only respondents for a given election year. Thus in the accompanying handout, all tables except Tables 1 and 3 include 1992 respondents only (i.e., cases with "1992" on V01). Here is how to select such a subset of cases.

First, click on Data on the menu bar and then Select Cases. This will produce a Select Cases dialog box. You will see the usual source list of variables and several options, each preceded by a "radio button" (open circles, one of which [preceding the option All cases] has a smaller solid circle inside it). Click on the button for If condition is satisfied to select this option (and automatically unselect All cases). Then click on If... to produce a Select Cases: If dialog box. To select

1992 respondents only, select V01 and click on the ▸ button to move it into the empty box (in the upper center and right) and then click on the appropriate symbols in the calculator keyboard displayed below (or type directly) to create the appropriate logical expression. (You will not have to use the ▴ button.) For 1992 respondents only, create the expression v01 = 1992 . Then click on Continue and then OK . You will now find a variable called filter_$ in the last column of data which has a value of "1" for each case that is "selected in" and "0" for each case that is "selected out," and all subsequent procedures in this SPSS session will be limited to the former subset of cases *unless and until* you change the Select Cases setting (e.g., to another year or back to All cases). To remind you of this, the message Filter On appears at the bottom of the data window. With the v01=1992 filter on, a frequency distribution of V45 will produce Table 4 in *Data Analysis Using SETUPS and SPSS* and a crosstabulation of V04 and V45 will produce Table 5.

Embellishments. You can also use the Select Cases dialog box to select a random sample of cases, as I will do in the handout on *Random Sampling*. Select Random Sample and then specify the sample size (either as a percent of all cases or as an absolute number).

VIII. HOW TO RECODE A VARIABLE

Before producing Table 7 in accompanying handout on *Data Analysis Using SETUPS and SPSS*, it was convenient to *recode* variable V60 (AGE) by combining codes values {1 and 2}, {3 and 4}, and {5 and 6}, respectively. Here is how this is done.

First, click on Transform on the menu bar, then Recode, and then Into Different Variables. This will produce a Recode into Different Variables dialog box. Select (in the usual manner) the variable(s) to be recoded (e.g., V60) and then click on Old and New Values. This will produce a Recode into Different Variables: Old and New Values dialog box, with a cursor flashing in the "old value" box (on the left). Using the keyboard, type in an old value; then click on the "new value" box and type in the corresponding new value there, and finally click on Add . Repeat until you have created the entire recoding scheme. Using the example of AGE (V60) discussed in the accompanying handout, this recoding scheme would be:

1 → 1
2 → 1
3 → 2
4 → 2
5 → 3
6 → 3
9 → 9

If you make a mistake (e.g., 2 → 2), highlight it and then click on Remove . Click on Continue to return to the Recode into Different Variables dialog box. Now click on the Output Variable — Name box and type in a name for the new (recoded) variable (e.g., v60r for "v60 recoded") and then, if you wish, click on Output Variable — Label box and type in an appropriate variable label (e.g., 3-CATEGORY AGE). Next click on Output Variable — Change and a heading

such as v60 → v60r will appear in the box. Finally click on OK . You will now find the new (recoded) variable in the last data column and at the end of each variable source list.

Embellishments. You can specify other characteristics of the recoded variable. Switch from Data View to Variable View and edit the entries for the variable in question. You can type in a variable label now if you did not do so before. Clicking twice in the Values cell will give a Value Labels dialog box, which allows you to label the recoded values, e.g., "17-34" (or "Younger") for code "1", "35-54" (or "Middle Aged") for code "2", and "55-99" (or "Older") for code "3". You may also wish to specify zero decimal places (rather than the default of two decimal places), so that the coded values are displayed as "1" rather than "1.00", etc.

IX. HOW TO PRODUCE CROSSTABULATIONS WHILE CONTROLLING FOR A THIRD VARIABLE

In the accompanying handout, Table 7 crosstabulates (for 1992 respondents only) PRESIDENTIAL VOTE (V04) by ABORTION OPINION (V45) while *controlling* for AGE (V60 recoded into v60r as discussed above). This can be accomplished very simply. Using the Crosstabs dialog box, duplicate the basic (row and column) crosstabulation request but also select the third variable (e.g., v60r) and move it into the third box (below Layer 1 of 1).

Such a request produces a separate "panel" of the table for each value of the third (or *control*) variable. For this reason, if the third variable has many values, it is often convenient to recode it into a smaller number of values (as was done with AGE in Table 7 of the accompanying handout).

X. HOW TO GET FREQUENCIES OR CROSSTABULATIONS QUICKLY FOR EACH PRESIDENTIAL ELECTION YEAR SEPARATELY

The great virtue of a pooled cross-section like the SETUPS 1972-2004 data is that you can readily make *comparisons over time*. For example, we can make separate frequency distributions or crosstabulations for each election year to see if there is some trend over time. The most obvious way to do this is to use the Select Cases procedure repeatedly with respect to V01 (YEAR OF SURVEY). However, this is rather tiresome. It is much simpler to use YEAR OF SURVEY as an additional variable in a crosstabulation. For example, if we want to see how reported turnout varies from one election to the next (as in Table 3 in the accompanying handout), we can run nine frequency distributions of V03 (VOTED IN ELECTION), selecting cases so that v01=1972 for the first frequency distribution, v01=1976 for the second, etc. But we can get exactly the same results much more quickly by running a single crosstabulation of V03 (row variable) by V01 (column variable). (This is exactly what we did in Section VI above.) Likewise, if we want to see how the influence of party identification on vote choice may vary from one election to another, we can run six crosstabulations, selecting cases with respect to V01. But we can get exactly the same results from a single crosstabulation of V04 by V09 with V01 as the third (control) variable.

XI. HOW TO PRINT YOUR SPSS OUTPUT

When you have run all SPSS procedures you need, you must decide what (if any) of your SPSS output you wish to print and take with you. With the OUTPUT window in the foreground, scroll through the output to see what you want to print. (Some of your output is likely to be "messed up" or redundant, so probably you will not want to print all of it.) Bear in mind that you must pay for printed output (see below), which is a further reason to be selective about what to print. If you wish to print a particular selection of your output, click anywhere in the table, graph, etc., that you wish to print. A rectangle will appear around the selected output item. Next click on File from the menu bar, then on Print . Verify that the "Print Range" ("all visible output" or "selection") is as you wish, and then click on OK . Alternatively, you can delete selected items (by selecting each in turn and then pressing the DELETE key) and print what remains of the output. When you have finished your computer session (see below), go to the Print Dispatch counter in Room 019. (If you are working in the Library, go to the Circulation Desk.) Your printed output, labeled by your room and PC number (see the label above the monitor screen, e.g., ECS021PC08, which should make a note of before you leave), will be placed on the counter in due course (perhaps almost immediately, possibly considerably later, depending on the length of the print queue) for you to pick up. You will have to present your UMBC ID and pay 10¢ for each printed page you take with you. The fee can be paid using your "Red" UMBC Campus ID card. (Cash is *not* accepted.)

XII. HOW TO SAVE YOUR SPSS OUTPUT

If you have a CD or jump/flash/thumb drive with you, you can save your SPSS output and take it with you to print elsewhere (e.g., on your own or a friend's computer) without paying a printing fee or to incorporate into another (e.g., word processing) document. If you wish to save only particular selections of your output, click anywhere in the table, graph, etc., that you wish to save. A rectangle will appear around the selected output item. (You can also attach the output as a file to an email message sent to yourself.)

Put your CD in the appropriate drive or jump drive in a USB port. With the OUTPUT window in the foreground, click on File from the menu bar, then on Export (*not* Save As; if you Save rather Export your output, it can be opened later only by using SPSS.). In the resulting Export Output dialog box, indicate whether you want to export the entire output file or only a selection by checking the appropriate box at the top and use the drop-down menu to specify whether you are exporting (i) a mixture of text (including tables) and graphs [Output Document], (ii) text only [Output Document (No Charts)], or graphs only [Charts Only]. Delete whatever appears in the File name box and type in a:\output1 (or whatever drive is appropriate and whatever file name you prefer). You can save your output in several Export Formats (see immediately below). Finally click on OK to export the SPSS output file to the DC or jump drive.

If you choose to export an SPSS table as a Text file, the file can later be opened by (almost) any software. All the information in tables will be there but formatting will be *badly* messed up. If you choose to export a table as a Word/RTF or HTML file, the file can later be opened by *recent*

versions of Word (and WordPerfect), with the formatting (mostly) preserved. The resulting word processing file can be edited, but it will be a *table* (in that program), rather than ordinary text. (The handout on *Data Analysis Using SETUPS and SPSS*, was produced using WordPerfect and incorporating SPSS output exported in HTML format.) If you export a chart only, you can export in *BMP* (bitmap) format (a large file that will display a very clear image) or in JPG format (a much smaller file that may display a slightly fuzzy, but perfectly adequate, image). Such a file can be inserted into a word processing document and can also be displayed by, and also printed in, in a web browser (such as Internet Explorer, Netscape Navigator, Firefox, or Mozilla) or in Windows Paint (which can be used to edit or annotate the chart).

XIII. HOW TO EXIT FROM SPSS

Click on File on the SPSS menu bar and then on Exit. SPSS will ask you whether you want to save the contents of your data window — presumably the answer is "no." (In principle, you can save the SETUPS data file to a CD or jump drive, but you cannot make use of it unless you have access to SPSS). It may also ask whether you want to save your output. Presumably you will have done this already (section XII above) if you want to, though you now have a chance to change your mind from "no" to "yes." (Cancel allows you change your mind about exiting SPSS.)

XIV. HOW TO LOG OUT

You logged on at the beginning of your session, and now you must also log out. Having exited SPSS, you are returned to the Windows desktop. Double click on the "Logout" icon and then confirm choice by clicking on Yes in the resulting box. This will return you to the same screen that you first sat down to and that will be presented to the next user of the computer. If you have put a diskette or CD in a drive, remember to remove it before you leave.

XVI. THE PRESIDENTIAL ELECTION DATA FILE

Note. This section discusses procedures that are not illustrated in the handout on *Data Analysis Using SETUPS and SPSS: Voting Behavior in Presidential Elections 1972 to 2008* but which will be presented in later handouts and problem sets.

The data file PRES1824-2008.sav contains state-by-state Presidential election returns from 1824 through 2008. Unlike Data7208.sav, which has relatively few variables (columns) but a great many rows (cases), this file has relatively few rows (cases) but many variables (columns). There are 51 cases (each state plus the District of Columbia) and about 275 variables. The first variable is the two-letter postal code for each state, the second variable is the number of each state when the states are arranged in alphabetical order (by their actual names, not their postal codes), the third variable provides one possible coding of the REGION in which each state is located, and the next 47 columns give the electoral vote of each state in each Presidential election. (An electoral vote value of "0" indicates the state did not participate a given election, because it was not yet a state, it was a Confederate state in 1864, it was one several southern states still under federal military rule in 1868, or it was the District of Columbia prior to the 23rd Amendment.) The remaining variables give state-by-state vote totals for each candidate in each election. The labeling of these variables should be self-explanatory for the major-party candidates. (To identify minor candidates, you can refer to an appropriate reference volume or to this very informative website: *Dave Leip's Atlas of U.S. Presidential Elections* at http://www.uselectionatlas.org).

Since this data file contains truly quantitative interval-level (and essentially continuous) data, different SPSS procedures from those used with Data7208 will typically be used. For example, a request for a frequency distribution of (for example) dem2000 will produce a useless table with 51 one rows and one case in each row (since each case has its own unique value). On the other hand, it often makes sense to construct histograms and calculate measures of central tendency and dispersion and correlation and regression coefficients with this type of data. An abbreviated overview of these procedures follows, which will be discussed in more detail later.

Converting Raw Votes into Percentages. Given election data like this, we are usually more interested in *percentages* than *raw votes*. To convert dem2000 (the number of votes Gore received in each state in 2000) into what we might label dpc2000 (the percent of the vote Gore received in each state in 2000), do the following. Click on Transform on the menu bar and then Compute. This will produce a Compute Variables dialog box. Enter a name, e.g., dpc2000, for the new variable in the Target Variable space, and then create the appropriate computing formula in the "Numeric Expression" space. This may be done either by typing the expression directly or by moving variable names from the source list and/or clicking on the appropriate symbols on the calculator-style keyboard. Before you do this, you must decide exactly what kind of percent to use. Do you want the Gore vote as a percent of the two-party vote only (call this d2pc2000), or do you want the Gore vote as a percent of the total vote, including that for third-party or other minor candidates (call this dpc2000)? The appropriate expressions would be as follows:

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d2pc2000 = 100*dem2000/(dem2000+rep2000)
dpc2000  =  100*dem2000/(dem2000+rep2000+nadr2000+buch2000+othr2000)
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Descriptive (Univariate) Statistics. Click on Analyze on the menu bar, then Descriptive Statistics, and then Descriptives. This will produce aDescriptives dialog box. Select the variables of interest from the source list; then click on Options and use the check boxes to select the desired statistics. Then click on Continue and finally OK. Unfortunately, the Options in this box do not include the median and related statistics. Alternatively, you may click onAnalyze on the menu bar, then Descriptive Statistics, and then Frequencies. This will produce a familiar looking Frequencies dialog box. After selecting variables of interest from the source list, click onStatistics and use the check boxes to select the from the broader list of statistics (that includes the mode, median, and quartiles and then click on Continue. To suppressing the useless frequency table, remove the check (by clicking on it) from the Display frequency tables check box. Finally click on OK.

Correlation and Regression. For correlation between variables, click on Analyze on the menu bar, then Correlate, and then Bivariate. This will produce a Bivariate Correlations dialog box. Select the variables of interest from the source list; then click OK. For (bivariate or multiple) regression, click on Analyze on the menu bar, then Regression, and then Linear. This will produce a Linear Regression dialog box. Select the independent variable and one or more independent variables from the source list and then click OK.

Hiistograms, Scattergrams, and other Charts. SPSS can produce (equal-interval) histograms, scattergrams, and other charts for interval-level data. Click on Graphs on the menu bar and then Scatter (or some other type of chart). How to proceed further is fairly straightforward and may be illustrated later in the semester.